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JULY 22 1891

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By W. WATSON.

The Wild Garden.
By MRS. MARY TREAT.

The Strawberry Season.
By E. WILLIAMS.

The paper will contain an illustration of Iris Robinsoniana, from a photograph.

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The Red Oak.

THE Red Oak is one of the largest and most beautiful of the deciduous trees of the American forest. It is the largest and the most widely distributed American representative of the so-called Black Oaks—that is, of the Oaks distinguished by the acute bristle-pointed lobes of their leaves, by the slow development of their fruit, which requires two seasons in which to reach maturity, and by their brittle and porous wood. There is no other American Oak of wide distribution which varies so little as the Red Oak in the form of its leaves and in the character of its fruit; and it is in western Texas only that it occasionally assumes an appearance which is puzzling to botanists, leading them to suppose that through this extreme form it may be possible to join it specifically with some of the other Black Oaks.

From Canada to Texas the Red Oak varies but little in what may be called essential characters; individuals are large when the soil is rich and moisture is abundant, and they are small and stunted in barren soil unrefreshed by copious rains. The leaves and the fruit are larger and better developed when conditions of growth are favorable, but in form they are very constant, and it is easy to distinguish the Red Oak, with a little practice, at all seasons of the year.

In habit of growth it varies considerably, but not more than other trees; for it must be remembered that the habit of a tree—that is, the form of growth a particular individual assumes—is dependent entirely on the local conditions and surroundings in which the individual is developed. It is exceptional when all the individuals of a tree-species assume the same habit of growth. Most trees form tall slender stems when other trees crowd them, as in the forest, and cause their lower branches to die from the insufficient supply of sunlight which reaches them. An individual of the same species standing by itself will send out long stout lateral branches which give to the tree an entirely different appearance. In the case of some trees the habit of individuals is influenced by the character of the soil in which they grow, and age, of course, brings many changes in form and general appearance to trees. It is for these reasons that the portrait of an individual gives only a partial and therefore an unsatisfactory idea of the general appearance or habit of the species, and why a hundred portraits would be necessary to give anything like a comprehensive idea of the appearance of a tree like the Red Oak, for example, as it appears in different parts of the country growing under the different conditions to which it is subjected.

The power to recognize trees at a glance without examining their leaves or flowers or fruit as they are seen, for example, from the car-window during a railroad journey, can only be acquired by studying them as they grow under all possible conditions over wide areas of territory. Such an attainment may not have much practical value, but once acquired it gives to the possessor a good deal of pleasure which is denied to less fortunate travelers.

The Red Oak (*Quercus rubra*) grows naturally in both rich land and in light porous gravel. Usually it selects a soil intermediate in character, between that preferred by the White Oak and the sterile soils occupied by the Black Oak. It is the only Oak which reaches as far north as the northern part of Nova Scotia, while westward it extends almost to the limits of the Atlantic forest region. It is one of the commonest trees in all this great territory, and grows from the immediate neighborhood of the coast to higher elevations on the Appalachian Mountains than any other Oak tree; it is as common west of the mountains as it is on the Atlantic sea-board, and it abounds in the south as well as in the north. The Red Oak cannot secure a foothold in undrained swamps or on the inundated banks of rivers, but in all other situations, from Cape Breton to the Rio Colorado, it can hold its own wherever trees grow. It is west of the Alleghany Mountains that the Red Oak, growing on rich intervale lands along the larger streams which flow into the great tributaries of the Mississippi, can be seen at its best as a timber tree. Here specimens can be found a hundred and fifty feet high, with stems as straight as arrows, free of branches for sixty or seventy feet from the ground, and five or six feet in diameter, above the great swollen buttresses which are characteristic of large individuals of this species. Such noble specimens occur, too, in the forests which clothe the slopes of the mountains of the south, but at the north, where the deciduous forests which Europeans found here when they discovered America have been replaced by a second growth, the Red Oak assumes, usually, a different habit. The trunk often separates, fifteen or twenty feet from the ground, into several stout branches which grow in an upright direction, and, gradually spreading outward, form a wide head in the shape of an inverted pyramid. Such a form indicates that the tree has grown in good soil and that it has succeeded in securing a fair amount of space in which to develop its head. In poor soil, and when crowded by other trees, the Red Oak makes a narrow head of small branches and does not grow to a large size. Sometimes it branches low, sending out at right angles with the trunk great wide-spreading limbs, like a pasture White Oak, making a round-headed top. Such specimens are not common, and perhaps represent the noblest type of individual beauty the species is capable of.

The bark of the Red Oak is dark brown and deeply furrowed on the trunks of old individuals; it is smooth and gray on young trunks and on the branches, unless they are very old and large. The bark of the branches is smoother and lighter-colored than that of the other Black Oaks which are usually associated with the Red Oak, and for this reason the tree can be easily recognized in winter by the color of the branches alone. The leaves are oblong in general outline, with five or six acuminate lobes on each side, separated by rounded shallow sinuses; they are rather thin, smooth, bright shining green on the upper

surface, and shining, although somewhat paler, on the lower surface. They are borne on long slender stalks which, like the upper side of the veins, are sometimes tinged with red; and in the autumn they turn first dull-red and then yellow before falling. The fruit is unlike that of our other Oaks. It is sessile or very short-stalked; the cup is flat or shaped like a shallow saucer, with a narrow raised border of small, close-fitting scales, and is often more than an inch across, enclosing the base only of the large oblong or ellipsoidal acorn, which is as long or longer than the cup is broad. The fruit is produced generally in great profusion, and in October often covers the ground beneath the trees.

The wood of the Red Oak, although strong and heavy, is coarse-grained and difficult to season; it is light reddish brown and contains the bands of large open ducts found in the wood of all the Black Oaks. Formerly it was little used, but of late years, since white oak has become scarce and expensive, it is employed in great quantities in cooperage, in the manufacture of cheap furniture, especially in some parts of the west, and for the interior finish of buildings, for which purpose, when "quarter-sawed," it is well suited and now highly esteemed.

The Red Oak grows rapidly. Very few of the American trees which produce hard wood increase in height and in girth of trunk as rapidly. Mr. Emerson, who devoted much attention to studying the rate of growth of different trees, found that the average increase of the Red Oak in Massachusetts during the first thirty-five years of its life was at the rate of about two inches in diameter every eleven years. In more favored parts of the country it would probably grow more rapidly. As a street or park tree the Red Oak is not surpassed in value by any of our trees, and it is surprising that it is not generally planted. There is, however, a popular belief that Oaks are hard to transplant and that they grow very slowly. White Oaks are certainly difficult to move, and must be set as seedlings if they are to grow into fine trees. But all Oaks grow rapidly when once established, and there is no tree easier to transplant than the Red Oak. Specimens ten or fifteen feet high can be moved with perfect safety from the woods, and if they are planted in good soil will make for many years an average annual upward growth of eighteen or twenty inches. If hardiness, good habit, adaptability to different soils, beauty of foliage, longevity and freedom from disease have any weight with planters of trees, the Red Oak should receive attention at their hands. It is valued in Europe, where, especially in Germany and in Belgium, it is more frequently seen, and in better condition, than any American Oak. But how many Americans plant Oak-trees or realize when they send to nurseries for foreign trees that their own town contains the best material for their ornamental plantations?

Some idea of the beauty of the stem of one form of the Red Oak can be gained from the illustration on page 341. It is made from one of Dr. Rollins' photographs of a tree growing in Dedham, Massachusetts, and one of the noblest specimens in New England.

Squandering a Nation's Patrimony.

At the recent celebration of the 4th of July at Woodstock, Connecticut, Mr. Murat Halstead delivered a striking address, to which he gave the title of the "Preservation of the People's Inheritance." It could be more accurately described as an account of the reckless way in which mankind in general, and Americans in particular, had squandered, and were continuing to squander, their inheritance. In speaking of the decline of certain nations, Mr. Halstead said:

The lands have been wasted, the forests are no more, the soil that once made fruitful hills and blooming valleys is at the bottom of the seas, and the streams that watered the peopled plains are lost in the sands that are the tombs of the profligates who have perished. The elements of possibility, the foundations of prosperity, are gone, never to be restored, and those cancers of the earth, the deserts, are eating away more and more that which should sustain the generations to come.

Coming down to our own country, the speaker referred to the exhausted fertility of tobacco-lands and wheat-fields; to the extermination of food fish and noble game and water-fowl; particularly to our vanishing forests.

The woods have been torn from the mountains, and brooks have departed because the springs have ceased to flow; and, when not dwindled almost to dust-beds, the ancient mill-streams are roaring floods, for the slopes of the ridges are bared and the rain-falls rush from them as over roofs of slate; the hill-sides are plowed up and down preparing gutters to feed the freshets with the soil that is far more precious, in the eyes of those who have been taught the art of seeing, than the precious metals. It is the passion and pride of the average American to smite the trees and shoot the birds and slaughter the last of our running game—and if there are laws for the protection of trees in parks, or game-laws to save the quail and squirrel, or to prevent scouring the rivers with seines out of season, and to provide fish-ladders and abolish fish-traps, they are regarded as tyrannical, a style of oppression identified only with effete monarchies and the tottering despotism of worn-out worlds. The buffalo have been exterminated—a noble race murdered, so that there are hardly enough to supply museums—and if there is a moose left in Maine he has been accidentally spared, and must be pursued by the hunter with remorseless fury to shed his blood to the final massacre. It is a crime to cut down the woods on a mountain, a crime to heedlessly kindle fires to burn forests, but our people have no realizing sense of the sort, and sneer at the Swiss and Germans who require three permits to fell one tree. In New York there is a struggle that seems hopeless to preserve the remnants of the once majestic and always romantic Adirondack wilderness. In our new states the statesmen dare not stand against the timber-thieves.

In some parts of the address Mr. Halstead's rhetoric was rather too intense for scientific accuracy, but, after all, the real sting of the indictment is in its truth. To the speaker's hopeful spirit the establishment of fish-hatcheries by the Government, the effort to protect the seals of Behring Sea, and the reservation of the Sequoia groves were acts which gave promise of a time coming when more serious thought would be given by our nation to the preservation of its heritage. He noted, too, as hopeful indications, that Arbor days were celebrated in many states; that tree-planting by children had become fashionable, and that the discussions over the Adirondack woods, although it might not save the wilderness, would ultimately, perhaps, save many other forests. We feel inclined to consider it another cheering sign that an orator of national repute has felt impelled, on that anniversary when Americans are in their most exultant mood, to raise his voice in earnest protest against the reckless destruction of our forests. No higher public service can be rendered by the country's leading men than the reiteration of warnings like this, until it comes to be universally understood what the ruin of our forests means.

How We Renewed an Old Place.

XIV.—THE ROSE-CHAFER.

There is no interim between our summer visitors. No sooner is the trunk of the last caterpillar packed than the rose-bug arrives, bag and baggage, to take his place. The half-eaten leaves that have been rescued from the jaws of the web-worm are in a few hours riddled with the bites of these winged pests, which are even harder to destroy than their predecessors, for they hunt in couples and fly, and cannot be stamped out of existence.

An imperturbable imp is the rose-chafer, descendant on one side from the scarabœus, and if his Egyptian ancestor was half as hard to kill as this other flying beetle, no wonder the ancients used him as an emblem of immortality.

This voracious summer boarder arrives with unpleasant punctuality upon the 10th of June—that is to say, the advance-guard of the great army shows itself in the shape of a scout or two, who merely precede the main swarm, which comes in a cloud, and settles everywhere, and stays nearly four weeks.

The opening Roses are their nominal prey, and are soon disfigured with their dingy yellow-brown carcasses; but that

is not the worst of them. Grape-blossoms are their dear delight, and nothing but the most unremitting attention will save the future bunches from their greedy depredations. There are at least two to every raceme of fragrant blossoms, and by the time one has disposed of that pair another is flying about all ready to take their places.

Arsenical poisons have no more effect upon them than a cold shoulder on an office-seeker. They may kill the plant, but never the rose-bug, which will crawl undismayed over its ruins, seeking new worlds to conquer. Having no delicate sensibilities, they are undeterred by whale-oil soap, which disheartens most things, and even a dusting with hellebore does not even make them sneeze. The great unterrified eat on in spite of all you can do to them, and no sooner is one set slain than you find another in its place. They remind one of the Jesuit monks in Bolivia, whom the inhabitants finally regarded as supernatural beings, because, no matter how often one cowled and sandalled form was laid low, another succeeded it, till the natives came to believe that the friar was an immortal, whom they vainly sought to destroy.

As to the rose-bug, hand-picking into a bowl of kerosene or hot water, begun at morn, continued till noon, and not intermitted till dewy eve, is the safest resource against the marauders, which devour not only Grape-blossoms and Roses, Spiræas and Syringas, Pæonies and Snowballs, but cover Birches, Oaks, Elms, and even Willows, with their ugly little forms, and leave behind them a lace-work of veins in place of leaves.

Nothing pleases them better than a Smoke-bush in blossom, the future fringe of which they will completely destroy in a few hours. We tried the experiment this year of tying ours up in mosquito-netting, but it seemed to accomplish nothing better than the excitement of the curiosity of passers-by, who could not make out whether it was a ghost on the lawn or a balloon waiting for a Fourth of July inflation. The indomitable chafers perched on the outside by the hundred and chewed at the blossoms through the meshes, so that, what with their attacks and the confinement, the smoke came to nothing after all, for when the cover was removed nothing was to be seen of the fringe but a few bare green stems.

Probably the rose-bugs do not publish a morning paper, or they would learn that the lawn at Overlea is an unhealthy situation for their race, and that their unprecedented mortality in that region ought to be a warning to them. Certainly in the height of the season the hecatomb of victims amounts to a thousand a day, but the cry is, still they come.

We hoped that the long, cold, easterly storm of June would prove a discouragement to them, but the minute it stopped raining they reappeared more numerous and hearty than ever, and made up nobly for lost time. They show a curious preference for old-fashioned Roses, and will devour them, leaving a bed of hybrids of modern varieties almost untouched, and they never are found here on the Tea Roses. They will eat the hardy Hydrangea voraciously, but do not affect the Weigelia. They spoil the Snowballs, but do not meddle with Lilacs. We have some young Canoe Birches that are struggling for existence, and I always imagine the departing caterpillar exchanging compliments with the arriving rose-bug and recommending them to his particular attention, after the fashion of guzzling Jack and gorging Jimmy:

> "Here's little Billee, he's young and tender,
> They're old and tough, so let's eat he."

Positively, if, during three or four weeks of their stay, those insects were not fought tooth and nail, there would not be one leaf left upon those unhappy little trees. As it is, when the brutes depart, the Birches look like a design in skeleton leaves.

This year our hopes were roused by a remedy called Sludgite, which was warranted to kill, not only the rose-bug, but the Colorado beetle and all other insects fatal to vegetation. Though scoffed at by incredulous friends we dared to send for a can of this evil-smelling mixture and applied it to the creature, with whom it undoubtedly disagrees. It is made of the residue of petroleum and soap, and smells to heaven, but, alas! the rose-bug has no nose—at least no nose that takes offense at bad odors. Sludgite is a thick, semi-solid substance that mingles readily with water, and is applied by a spraying-pump or a hand syringe, and kills by contact. The rose-bug and the Colorado beetle keel over with all their heels in the air as soon as the gummy fluid comes in contact with their wing coverings, but, curiously enough, it seems to have no power to destroy the larva of the potato-bug, and, not being a poison, it seems to have no deterring effect upon the little worm that eats the leaves of Rose-bushes, or even upon the Thrip, which whale-oil soap banishes for a long time. Therefore, I judge that the mixture clogs the wings and interferes with the breathing of beetles, or, possibly, whatever virtue it possesses lies in the volatile essence which escapes from it, for the fresh mixture is much more deadly than that which has stood for some time.

But the sad thing about its use is, that the rose-bug is a being that draws no moral from any tale, and he is totally devoid of sentiment. I cannot find that the corpses of his relations take away from his appetite in the least. Possibly the numerous attendants we see at the funeral come for a wake, and they are full as hungry and thirsty as Conn the Shaughraun's cousins on the same melancholy occasion.

Though I am disposed to think that the chafers may not be quite so ready to attack a bush or tree freshly anointed with the unsavory fluid, I am not sure but that the wish is father to the thought. In any case, it is not practicable to shower a bush every five minutes with anything, however deadly, so that it is almost as discouraging as hand-picking.

A distinguished horticultural authority, who takes very little stock in my new discoveries, declares that muscle is worth more than faith, and shows me perfect roses, as large as his fist, to prove it. This is all very well if you are lucky enough to have unlimited muscle at your command, as in an arboretum for instance, where every rose-bug has a man to catch him, but both hand-picking and insecticides are alike failures in a private family with one factotum. What the world demands is a warning of some kind that the chafer who runs may read, a something to convey to his insect-mind or nostrils the information that "no rose-bug need apply," and whoso can make this discovery palpable to the enemy will have his fortune in his red right hand.

The legends connected with the rose-bug are numerous. They tell us that he will not molest a Grape-vine or a Rose-bush close against a house, though he will devour the Virginia-creeper against the lattice of your veranda. He is supposed to object to the dust of the road and to a sprinkling of coal-ashes; but on our own windy hill neither of these deterrents can be made to stick.

Another legend belongs to the potato-beetle, which some of the farmers in this neighborhood vow will not trouble Potatoes planted in a hill with Beans; but this is merely a legend. We have tried it, and find the creatures as lively as ever.

To return to sludgite, I would say that its highest practical use is upon trees and shrubs without blossoms, for the sticky yellow fluid cannot be sprinkled upon roses without spoiling their fairness. So far it does not seem to damage foliage, but we cannot answer for the effect of such a viscid decoction if used many times a day. We have never tried it more than twice in twenty-four hours. It kills or drives away the insects that are there, but others return immediately, so that such insecticides are little better than substitutes for hand-picking.

Our struggles with the hated rose-bug, and the hopeless nature of any prolonged encounter with an inferior organism of overwhelming numbers, find such clear expression in the words of a correspondent that I subjoin an extract from a letter from a lady who has had similar sufferings with another insect:

"I am passing through the discouraging season of gardening, and am realizing more than ever the nature of Adam's curse. It sounds like a fine thing to be told we shall have dominion over the birds of the air and the beasts of the field, but what gain is there in that if we are to be beaten in the end by the angle-worm, the ant and the snail? To fight with a snail, and be beaten, isn't that humiliation? But I stand in the place of the vanquished, and it is the snail that has done it. I was born a sentimentalist, and had scruples about 'taking away the life thou canst not give,' that once hindered my career as a gardener. Now I grieve over the imperfect nature of the snail's nervous system that makes even death apparently painless.

"But he keeps up with the times, does the snail; he reads the seed catalogues, and he knows that Asters cost more than Marigolds; he has an eye for beauty, too; he knows a foliage plant very early in its career, and his taste is always for red rather than green.

"The snail is a much underrated power; his calmness, his persistence, his retiring nature, his thick-skinned endurance, make him a type that is bound to survive, and I predict for him a glorious future. If he can only find enough fools to cultivate gardens for his use he will enter in and possess the land, and develop into something quite grand." All of which quotation, with slight variation, will answer for our winged pest.

I was quite touched by the prediction of a member of the horticultural society of that state, that apparently the whole of

southern New Jersey will have to be abandoned to the rose-bug. This adds a new terror to the already complicated legislation of that unhappy region, for I am convinced, from my experience, that if the rose-bug wants anything he will get it, and no doubt we shall live to see him sitting in the gubernatorial chair.

Hingham, Mass. *M. C. Robbins.*

Notes on North American Trees.—XXVI.

69. *Rhus cotinoides.*—The Tournefortian genus Cotinus, adopted by Linnæus in the early editions of the "Genera," and afterward united by him with Rhus, is re-established by Engler in his monograph of the *Anacardiaceæ*, published in the fourth volume of De Candolle's "Monographiæ Phanerogamarum." The genus, with its two species, one of the Old World and the other of the New, is well characterized by the numerous long accrescent plumose sterile pedicels, and by the unequal development of the fruit which brings its apex at maturity well down on to the side; and in "The Silva of North America" I shall follow Engler, and separate Cotinus from Rhus. There is not much doubt what the names of the two species should be. Linnæus first described the European plant in the first edition of the "Species Plantarum" as *Rhus Cotinus*. *Cotinus* is, therefore, the oldest specific name for the species which, if the genus Cotinus is maintained, must be called *Cotinus Cotinus*. Engler, unfortunately, passed over this Linnæan name, as Koch had done before him, and took up, as the specific name, *Coggygria* of Scopoli ("Fl. Carn.," i., 220) published in 1772, that is many years later than the date of the "Species Plantarum." There is even less room for a difference of opinion as to the correct specific name of the American species. Nuttall, who discovered it, called it as an herbarium name, without description, *Rhus cotinoides;* this name was first published in 1860 in Chapman's "Flora of the Southern United States." The plant was first described by Nuttall himself in the third volume of his "Sylva," which appeared some time between 1842 and 1850, under the name of *Cotinus Americanus*, and *Americanus* is, therefore, the oldest name, whether the plant is called Cotinus or Rhus.

72. *Rhus venenata.*—There is confusion of long standing in the case of the name of our Poison Sumach. It dates from the time of Linnæus, who believed that the Japanese Lacquer, or Varnish-tree, was the same plant as our North American Poison Sumach. He knew from the writing of Kæmpfer that the Japanese used the juices of their tree as a varnish, and so called his species *R. Vernix*. There is no question, however, that when he described *R. Vernix* he was describing the North American and not the Japanese plant. His descriptions in the "Species Plantarum" and the earlier one published in the *Hortus Cliffortianus* show this, as do his references to earlier descriptions and figures of the American plant. De Candolle, finding that the two plants were distinct, made new names for them both and discarded entirely the *R. Vernix* of Linnæus, calling the American plant *R. venenata* and the Japanese plant *R. vernicifera*. Instead of lessening the confusion, this only increased it, as it left a perfectly good Linnæan name without a plant to which to attach it. Professor Gray, as long ago as the publication of the first volume of the "Flora of North America," remarks in the supplement that "*R. Vernix*, L., was originally founded entirely on the North American species; hence the Linnæan name ought to have been continued for our plant." Unfortunately, however, he never corrected the mistake, and in all of his subsequent publications wrote *R. venenata*. I shall, nevertheless, restore the Linnæan name in "The Silva" in spite of the fact that the Candollean *venenata* has become firmly rooted in the literature of American botany. The most unfortunate part of the whole matter is, that our tree has a name which properly belongs to a Japanese tree, as the name *Vernix* was given to our plant on the supposition that the Japanese and American species were identical, and it was chosen, of course, on account of the properties of the juices of the Japanese, and not of the American species. *C. S. Sargent.*

New or Little-known Plants.

New Orchids.

Trichocentrum triquetrum, Rolfe, is a very distinct little species, introduced by Messrs. Charlesworth, Shuttleworth & Co., of Bradford, from Peru. It belongs to the section with equitant vertical leaves, like an Iris, and is allied to *T. iridifolia*, Lindl., though larger, and with very different petals and lip. It is about six inches high, the flowers straw-colored, with the lip variegated with dull orange. The spur is one and a quarter inches long, and the ovary strongly triquetrous, as in *Angræcum Leonis.*—*Gardeners' Chronicle*, June 6th, p. 701.

Oncidium urophyllum, Lindl., an interesting species, which has been lost sight of for many years, has now reappeared at Kew, having been received from the island of Antigua, in the West Indies. The habit is peculiar, as the leaves are sharply triquetrous, as in *O. triquetrum*, while the graceful panicle has numerous yellow flowers with some brown markings. Its whole history seems to be a mass of confusion, for the Brazilian habitat originally given appears to be erroneous, while in the "Flora of the British West Indies" Grisebach confuses both it and *O. Lemonianum* with the very distinct *O. tetrapetalum.*—*Gardeners' Chronicle*, June 6th, p. 701.

Rodriguezia anomala, Rolfe, is a remarkable little species, cultivated in south Brazil by Senor Azambuja, of Porto Alegre, but not yet introduced to Europe. In habit it resembles a Leptotes, under three inches high, but with very numerous racemes of highly fragrant white flowers, slightly tinged with rose and with a yellow crest. This floriferous little plant is very anomalous in structure, for, besides the terete leaves, the spur at the base of the lip is reduced to a sac of such minute dimensions as to be easily overlooked.—*Gardeners' Chronicle*, June 13th, pp. 728, 729, fig. 145.

Lælia-Cattleya × Arnoldiana is a very handsome hybrid, raised by Messrs. F. Sander & Co., of St. Albans, from *Lælia purpurata*, fertilized with the pollen of some variety of *Cattleya labiata*. The sepals and petals are pale purple, and the lip a brilliant dark shade of crimson. It was exhibited as *Lælia Arnoldiana* at a meeting of the Royal Horticultural Society, on June 9th last, and was awarded a silver-gilt flora medal and also a first-class certificate.—*Gardeners' Chronicle*, June 13th, pp. 741, 742.

Disa Veitchii is a handsome hybrid, raised by Messrs. James Veitch & Sons, of Chelsea, from *D. grandiflora*, crossed with the pollen of *D. racemosa*. Though fairly intermediate in character, the flowers most resemble the pollen parent, being of a bright rose-pink. It has flowered in the short period of one year and nine months from the time of sowing the seed. It was exhibited at a meeting of the Royal Horticultural Society, on June 9th last, and, like the preceding, was awarded a silver-gilt flora medal and also a first-class certificate.—*Gardeners' Chronicle*, June 13th, pp. 741, 742.

Sobralia macrantha, var. Kienastiana, is a dwarf and very handsome variety, with pure white flowers and some lemon-yellow on the disk. It was exhibited by Baron Schrœder at a meeting of the Royal Horticultural Society on June 9th last, and was awarded a first-class certificate.—*Gardeners' Chronicle*, June 13th, pp. 741, 742.

Kew. *R. A. Rolfe.*

Foreign Correspondence.

London Letter.

Iris Gatesii.—I noticed this new Iris about this time last year, when it flowered with Herr Max Leichtlin at Baden Baden. Blooms of it were exhibited a few days ago in London, and they fully bore out the high opinion formed of this species by Herr Leichtlin—namely, that its blooms are the largest and most beautiful of all Iris flowers. In habit the plant resembles *I. Susiana*, and it is very similar to that species in the size and form of its large flowers, so much so, indeed, that some authorities declare it to be only a color variety of *I. Susiana*. If anything, *I. Gatesii* is the larger of the two, and, instead of the dusky hue which characterizes *I. Susiana*, the color of the new plant is pale lavender, with a dull purple shade about the base of the falls. The two species ought to be grown together. They apparently thrive under the same treatment and bloom at the same time. *I. Susiana* has been very beautiful at Kew during the past fortnight, a bed of about

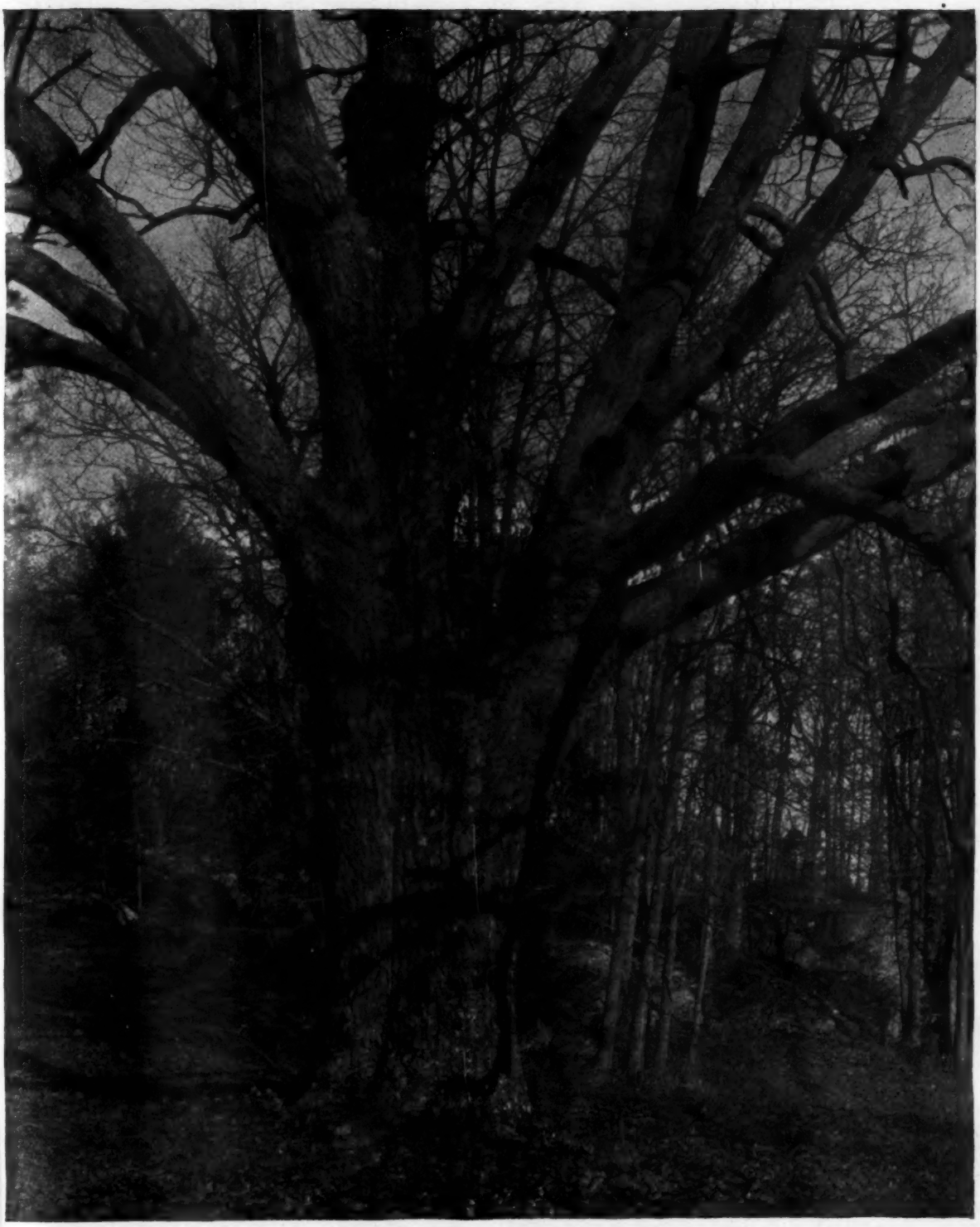

Fig. 58.—The Red Oak (*Quercus rubra*).—See page 337.

fifty strong plants having flowered well. The cultivation of this very old, rare and very handsome Iris is but little understood. It should here be planted in the open border, or in a bed of rich soil, in a sunny position, in November, and let alone until its leaves begin to turn yellow, say in July, when the plants should be lifted and dried exactly as though they were Tulips. This is the practice of the Dutch growers, who understand this Iris and all the species of its section better than we do. A well-known Dutch bulb-merchant recommended this treatment to be tried at Kew, and it has been followed with excellent results. *I. Gatesii* is at present somewhat expensive, but it will probably soon become as plentiful as *I. Susiana* is at present in Holland.

A TRIO OF GIANTS are now flowering at Kew for the first time in England; they are *Cereus giganteus*, the Mexican colossal Cactus which we know so well in pictures but have never seen alive until last year, when a specimen, fourteen feet high and weighing over half a ton, was obtained from Messrs. Blanc & Co. It is now in flower in the large Palm-house, where its tall columnar shape is an object of more than ordinary interest to visitors, some of whom have named it the Vegetable Cleopatra's Needle, from its resemblance to the column on the Thames embankment. The second of the trio is *Primula imperialis*, which is by far the largest of all Primulas. By the way, Sir Joseph Hooker has altered his opinion with regard to this plant and the Himalayan *P. prolifera*, which he once thought to be identical, but which, after seeing the two together in cultivation, he now admits to be both very well-marked species. I am certain that *P. imperialis* will fill a large place among popular cool-house, and possibly even hardy, plants before very long. *Iris Robinsoniana* is the third in the trio. Up to the present this plant at Kew has produced no less than 167 flowers since it first began to bloom on June 21st. I shall refer to it again next week; meanwhile I can say that it is the most interesting plant flowered at Kew since the time of the big Amorphophallus. It ought to become very popular in California, where, no doubt, it would be as happy as *Agave Americana*.

Weigelia hortensis, var. *nivea*, is a first-rate shrub with large pure white flowers, which are produced in clusters all along every branch. It was recently shown by Messrs. Veitch & Sons from their nurseries at Coombe Wood, where it forms handsome compact bushes, perfectly hardy, of course, and wreathed in flowers in June. *Indigofera Gerardiana*, var. *alba*, was also shown by Messrs. Veitch & Sons, and it is a good plant, too. The flowers are in erect axillary racemes, each about as large as the type, but pure white. Experience with it out-of-doors up to the present points to the necessity of some protection for it in winter, either by planting it against a wall or covering it during severe weather. Equally interesting with the above were two named varieties of *Azalea Indica* which Messrs. Veitch introduced a few years ago from Japan, and which have proved as hardy as the hardiest of Japanese shrubs. They differ in habit and foliage from the ordinary forms of the type, being dwarf and spreading, while the leaves are broader and thinner than in the greenhouse varieties of this species. In a few gardens near London *A. amœna*, which is also a small-leaved form of *A. Indica*, is grown in shrubberies and beds out-of-doors, and it thrives well without protection. But these new varieties, which are named Damio and The Mikado, respectively, have flowers as large as many of the greenhouse Azaleas, their color being rosy salmon. Both kinds had stood the past severe winter unprotected, and they were shown thickly laden with bloom.

DWARF CANNAS.—I believe these beautiful creations of the French nurserymen are the most talked-about greenhouse-plants in London at the present time. At the exhibitions and in public gardens they win universal admiration on account of their dwarfness, the elegance and sometimes purple hue of their foliage, but mostly because of the size, substance and beautiful colors of their flowers. Grown in a sunny greenhouse, and well fed at the roots, they form sturdy plants less than two feet in height, and each bearing several large spikes of handsome bloom. Everybody seems to be inquiring where these plants are to be obtained.

A HYBRID LILIUM.—Mr. C. G. Van Tabergen, of Haarlem, has succeeded in crossing *L. Martagon album* with *L. Hansoni*, and he has recently sent flowers of the hybrid to Mr. Baker, of Kew. He writes: "The cross was effected by me in 1886, and, singularly enough, all the seedlings have proved common red *L. Martagon*, except some five or six, in which the characters of both parents are clearly blended. The foliage is that of *L. Martagon*, but broader, and there are fewer leaves in a whorl." As a decorative plant this hybrid has little to recommend it, but it is most interesting, because of its being one of the very few known instances of Lilium hybridization. It is remarkable that, notwithstanding the efforts of many cultivators to obtain a good hybrid Lilium, not a single well-authenticated instance of success is known. Of course, we have several supposed hybrid Liliums, *i.e.*, *L. Parkmani*, of American origin, and said to be from *L. auratum* × *L. speciosum*, but now generally considered to be merely a variety of *L. auratum*. Mr. T. S. Ware, of Tottenham, also claims to have crossed *L. pardalinum* and *L. parvum*, but the result was a plant very like the first-named species. Good hybrid Liliums, such as, for instance, *L. auratum* with *L. longiflorum*, or *L. croceum* or *L. umbellatum* with *L. superbum*, ought to be possible, but apparently they are not. Can the physiologists tell us why?

Verbascum Olympicum is a giant Mullein which few people attempt to cultivate, possibly from a belief that it is not easily accommodated, or that it is rarely satisfactory in the garden. I believe it is a very good-natured plant if only its real needs are considered and supplied. Planted in well-drained, deep soil, and let alone, except in very dry weather, when it should be watered, it soon develops into a huge rosette of leaves, from which, in its second year, it pushes up a stout, tall, leafy scape, which branches freely, and finally develops hundreds of beautiful yellow flowers. Mr. Cannell showed three spikes of it last week which were fully eight feet high and simply sheaves of golden flowers. In a bed adjoining a greenhouse at Kew a fine example of it has been most attractive for weeks, and is still very handsome. So stately a plant deserves to be universally grown. I know one garden near Cambridge in which these giant Mulleins are a magnificent sight every summer.

Kew. *W. Watson.*

Cultural Department.

Stray Notes from the Arnold Arboretum.—V.

IT is not necessary to say that Lilacs are beautiful and valuable shrubs. Some of the species are as well known and as generally cultivated, in all temperate parts of the world, as any other shrub except the Rose, and it would be difficult to find a garden, here or in Europe, especially a garden of the old-fashioned sort, in which a Rose was growing, where there was not a clump also of the so-called common Lilac (*Syringa vulgaris*). This plant deserves its popularity; there is not a better garden-plant. Tough, reliable and long-lived, the Lilac goes on growing and spreading, year after year, and through generation after generation of human lives; every year it flowers, and every year the flowers are abundant, beautiful and fragrant. A Lilac-bush appeals to every one who sees it in flower, and the feeling for it grows continually stronger, as it does in the case of all plants with which we have been associated from childhood. There are certain plants which always appeal to the human heart and move its deepest sympathies—the Rose, the Violet, the Lily, the Lilac and a few others—different plants in different countries. Other plants produce more beautiful flowers, others are rarer and more wonderfully constructed, and a hundred times more expensive, perhaps, but none of these, not even the rarest and the most expensive Orchid, produces that peculiar sentiment which the true lover of nature feels for the humble Violet or the commonest Wild Rose.

The Lilac has been cultivated during so many years, and has been such a favorite, it is not strange that gardeners have paid much attention to producing improved varieties by selection, and, in some cases, by hybridization. There are now hundreds of these varieties in cultivation, and among those produced in comparatively recent years there are a few of extraordinary beauty and value. There is a collection of about a hundred of these varieties in the Arboretum, taken from the best French and German nurseries, and believed to contain all the best and most distinct forms. It is not my purpose to speak of the value of these varieties now, as they have not been sufficiently tested here yet to make it desirable to do so. It is proposed, next year, to gather them into one bed, three or four hundred feet long by twenty feet wide, at the foot of one of the road-slopes, where, once established, they should make a remarkable display, and, in time, show their individual peculiarities to the best advantage.

It may be mentioned that, among varieties that have been thoroughly tested here, none are better than Marie Lagrange, a variety with very large, pure white flowers in long clusters, the well-known Charles X. and Philamon. This last has dark red-purple flowers of immense size. The man who possesses well-established clumps of these three Lilacs in his garden

will have, when they are in bloom, three of about as handsome objects to look at as can well be found.

There is one serious drawback to all the varieties of the common Lilac. The leaves mildew badly during our summers, and the hotter the region is where they are grown the greater the disfigurement from this cause. In cold regions, as in some parts of Canada, the leaves are not disfigured from this cause, and retain their beauty until late in the autumn, although they never assume any brilliant autumnal coloring. There is a Chinese Lilac, however, which is not troubled by mildew. This is the plant found in gardens under the name of *S. oblata* (see GARDEN AND FOREST, vol. i., p. 221), although it resembles the common Lilac so closely that some botanists believe that it is only a form or variety of that species. As a garden-plant it has the merit of flowering ten or twelve days earlier than the common Lilac; the flowers are rosy purple and exceedingly fragrant, although the clusters are much smaller than those of any of the improved varieties of *S. vulgaris*. The leaves are large, broad, thick and leathery, and are never touched by mildew; in the autumn they turn deep vinous red, and at that season of the year are extraordinarily beautiful. Indeed, *S. oblata* is well worth a place in the garden for the beauty of its autumn leaves, quite apart from its value as an early spring-flowering shrub. It is a plant to which gardeners will do well to devote more attention than it has yet received, with the idea of producing improved seedling varieties. It may be expected, too, to aid, by hybridization, in the development of a new race of good Lilacs, with large and leathery foliage, able to resist mildew, and with the flowers of some of the best forms of the common Lilac. *S. oblata* has been an inhabitant of European and American gardens for many years, but, for some reason or other, its beauty and value have never been properly appreciated.

It is not necessary to speak here of the Chinese Lilac, *S. Chinensis*, so called, a variety, no doubt, of the common Lilac, a familiar inhabitant of the gardens of northern China, and now well known in those of America and of Europe, or of the Persian Lilac, with its narrow foliage and abundant flowers. These plants are both well known to every one who cultivates hardy shrubs. There are, however, five other Lilacs in the Arboretum which are still very slightly known to gardeners, although among them are some of the best garden-plants introduced in recent years. They can be most conveniently mentioned in the order of their flowering.

Next week I shall speak of some of the Lilacs which have been more recently brought into cultivation.

Arnold Arboretum. *P. C.*

[It is interesting to reproduce, in connection with our correspondent's remarks on Lilacs, the following extract from an article on the genus Syringa, from the pen of the distinguished botanist, Franchet, published in the 1st of July issue of the *Revue Horticole*. In speaking of the common Lilac, he tells us:

It was introduced into western Europe about the middle of the fifteenth century. Belon saw it about 1548 cultivated in the gardens of Constantinople. The first exact information, however, that exists about this plant dates only from 1565, when Mattiolus, in his "Commentaries of Dioscorides," gives in the edition of 1565, on page 1236, an excellent figure of the common Lilac under the name of "Lilac," adding that the figure was not made from the living plant, which he had not seen at that time, but from a painting brought back from Constantinople by Busbecq, Ambassador of the Emperor Ferdinand I. at the court of Soliman, who lived at Constantinople first in 1555 and again from 1556 to 1563. Busbecq is generally supposed to have introduced the Lilac into Europe, probably first into Italy, and then perhaps into Bohemia. In any case, Mattiolus, who says that he had not seen the living plant in 1565, relates in a later edition of his work that he had received before 1570 flowering and fruiting branches sent to him by Cortuso from the Botanic Garden at Padua. According to Cortuso, the plant was common in Africa in his day, and was known under the name of Syringa, a statement that needs confirmation.

In any case, the cultivation of the Lilac soon became popular in western and central Europe. Clusius, in his "Rariorum Plantarum Historia," published in 1601, says that at that time it was to be found in all the gardens of Belgium and Germany. It appears also under the name of Lilac, as cultivated in the neighborhood of Paris, in the catalogue of Robin, published at the same date; in the catalogue of R. Morin (1621) it is called *Siringa cærulea Lusitanica*. The history of the introduction of the Lilac is certainly well established, and it is surprising that A. P. de Candolle, usually so exact, should have affirmed in the "Prodromus" that the Lilac had been brought from Persia in the second half of the sixteenth century, although Boissier does not even mention the plant as usually cultivated in Persia.

The native country of the Lilac—that is to say, the region where the shrub grows spontaneously—is still undetermined. Most of the old authors, including Linnæus, ascribe it to Persia, which is certainly not correct. It was in 1828 that it was first stated that the Lilac belonged to the European flora, Heuffel and Rochel declaring at that time that it grew spontaneously in the Danubian provinces. Thirty years afterward, in 1858, Heuffel, in his "Enumeratio Plantarum Banatus Temesiensis," summed up in the following sentence everything he had said before on the subject: "Very common and truly indigenous in all the region of the Danube from its passage across the Banat to the Thermes of Hercules." Without absolutely denying that the Lilac is spontaneous on the banks of the Danube, it is well to remark, first, that the discovery of the shrub, so easily recognized from its abundance in situations where its presence would strike the eyes, did not occur until very late. Second, that it possesses in a remarkable degree the power of naturalizing itself and of spreading where it has once obtained a foothold. Third, that in the beginning of the sixteenth century it was, according to the testimony of Clusius, already widely distributed in Germany; while, on the other hand, the Emperor Ferdinand I., whose ambassador at Constantinople Busbecq was, was also King of Hungary. Fourth, that in the gardens of Pekin are two Lilacs so closely related to the common Lilac that it is not possible to distinguish them specifically, one of them being the so-called Chinese Lilac, or *Lilas Varin* of gardens. Fifth, that all the other species are incontestably Asiatic—that is to say, of Indian or Chinese origin. It must not be supposed that these doubts with regard to the spontaneousness of the Lilac in the Danubian regions are advanced in a spirit of scepticism; there is here an interesting question of botanical geography, and it is from this point of view only that these doubts have been raised.

To this Monsieur Edward André, who had just returned from a long journey in eastern Europe, adds the following editorial note:

We can add a few words to the facts which have aided our learned contributor in reaching these conclusions, having just seen the Lilac growing in abundance in a perfectly wild state on the mountains which separate Servia from Bulgaria. We found it most common on the precipices which rise from the narrow defile of the Nischava, near Nisch, where it was mingled with *Staphylea pinnata*, *Coronilla Emerus*, and other spring-blooming shrubs, and enlivened with the masses of the beautiful flowers of *Lunaria annua* and of *Adonis vernalis*. Any botanist who had passed in this picturesque region, remote from any habitation, would have believed as we did, that the Lilac was growing there spontaneously.

The issue of GARDEN AND FOREST (No. 165) containing Dr. Christ's letter with regard to the native country of *Syringa Josikæa* probably did not reach Monsieur Franchet until after he had written his communication. His argument, however, with regard to the naturalization of the common Lilac in Europe in recent years would apply with equal force to *S. Josikæa*, which is hardly to be distinguished specifically from the widely distributed and variable *S. villosa* of southern and eastern Asia. It is certainly remarkable that these two plants with showy flowers, and conspicuous throughout the year from the fact that they spread into large masses, should have escaped the attention of botanists and gardeners in the Danubian provinces until 1828 and 1830. Instances of plants, even trees and shrubs, establishing themselves in a comparatively short time in extra-tropical regions remote from their native countries are numerous. In this country a person unacquainted with the character or composition of our flora and its history would easily believe that the European Barberry and the Woadwax (*Genista tinctoria*) were natives of New England; and that the Cherokee Rose (a native of China), the Ailanthus and the *Melia Azedarach*, or Pride of China, were indigenous in many parts of the southern states. Not less remarkable is the spread and entire establishment in the southern Atlantic states of the Chickasa Plum, a native probably of the high plateau at the eastern base of the Rocky Mountains and brought east of

the Mississippi River, no doubt, by the Indians, through whose agency, also, the Catalpa has been made to appear indigenous in regions remote from its true home.—Ed.]

Hardy Flower Garden.

OWING to the genial growing weather and cool days, hardy plants of all kinds are rapidly occupying the space allotted to them. It is a good plan to make notes of any desired changes, and it is none too early to begin, for many of the earlier-flowering plants and bulbs have already died down, and, where this is so, the places must be carefully borne in mind or marked, so that when replanting is done in fall such plants may not be disturbed. Unless hardy plants are placed in position with the greatest care by one acquainted with the nature of each plant, it takes a season or two to get them so arranged that, by the contrast or the blending of colors, each one may produce the best effect, and none may thrive at the expense of its neighbors.

Polemonium pauciflorum is now in bloom with us, and, for a Polemonium, is very distinct, owing to its tubular yellow flowers, but as a garden-plant it will probably go the way of all the other species; there are none that are really worth caring for, now that we have so many better garden-plants.

Mr. Barker's note on *Heuchera sanguinea* fully corroborates my statement that there are inferior varieties in cultivation. He describes the flowers of his plants as "salmon-red," which is, no doubt, correct. Our plants have flowers of the most brilliant crimson, and this should be the proper color of the flowers as first described. An English writer describes this plant as the best hardy plant sent out for years; certain it is that seedlings vary a great deal in flower and leaf. Once in a while an extra large and bright flower is obtained, but much oftener the reverse. A remarkably good variety is said to have been produced in Ireland.

Aquilegia chrysantha alba seems, beyond question, to be the plant already known here as *A. cærulea alba*. It is identical with the blue Rocky Mountain Columbine in all but color, and it flowers at the same time. It is useless to depend upon seeds bought in Germany to produce a good-named collection of Columbines; the plants come fast enough, but it will save a lot of trouble and disappointment if they are left without labels. Columbines, of all other plants, need careful isolation to produce seeds that will come true.

We have six varieties of Lemoine's hybrid Montbretias, also *M. crocosmiæflora;* they were kept growing all winter in a cool house, and are now all flowering. The merits of the various kinds have been already commented on in Garden and Forest, and it is only necessary for me to add that all of the varieties we have are quite distinct, and some are much more showy than the parent plants. A large group of the Montbretias, Kniphofias and *Arundo donax versicolor* are planted together, and promise to make a fine display later on. The Kniphofias, or Torch Lilies, are already showing flower-spikes.

Young plants of *Phygelius Capensis*, raised from cuttings last winter, are flowering freely and make excellent border-plants, and, even should they not prove hardy, may easily be wintered in a cold frame. Of annuals, the Marguerite Carnation will be an indispensable plant for summer-flowering. Ours are just commencing to flower, and it would appear as if the strain has been improved upon since last season, as there is a much smaller percentage of single flowers, and all are flowering, while last year there were many plants which would not keep the promise to flower in a few weeks after sowing. When wintered over, however, they flowered this spring. We owe a great deal to the raiser of this pretty and precocious race of Carnations.

So. Lancaster, Mass. *O. O.*

A New Water-lily.

WITH the present extensive cultivation of Water-lilies and the widespread interest in them, it is to be expected that the present list of varieties will be continually extended by hybrids. We can hardly hope, however, for the frequent occurrence of one so beautiful as that which has appeared with H. F. Bahnsen, M.D., of Salem, North Carolina, an amateur cultivator of aquatics. The plant is apparently a cross between *Nymphæa odorata rosea* and *N. alba candidissima*. It is unnecessary, perhaps, to say that such a cross is likely to produce a valuable hybrid, the first-named parent having a beautiful flower, with all too short a season of bloom, while *N. alba candidissima* is a strong grower, always in flower. The new plant has strong rhizomes, resembling the latter variety, while the leaves (when well grown, about a foot in diameter) are intermediate between the two varieties, the Cape Cod Lily having cordate leaves, with a somewhat wide opening at the base, while in the other the opening is closed by the overlapping of the bases. The cleft in the leaves of the new hybrid is simply closed with a trifling lap. They have even stronger veinings than the parents, and in color resemble those of *N. odorata rosea*—green above and red beneath. But it is from the superb flowers that the variety is worthy of the name Superba. These are very fragrant, very freely produced, and in good specimens measure seven inches in diameter. The petals are somewhat narrow and very abundant, a flower now open being formed of forty-two petals, disposed in three rows.

The color is of the clearest rosy pink, which appears rather as a glow on the petals, the faintest tint at the points deepening into the heart of the flower. As one looks into the flower under the changing light the color seems to be a tint from the sun or clouds, rather than emanating from it; then, as the golden stamens are reflected, it takes on a most charming salmon tint, adding a final touch to its charms. Dr. Bahnsen needs no stimulus to his ardor in the cultivation of Nymphæas, but in this plant he is fortunate in adding a variety which must be considered among the very best of the race.

My studies of what we may call *N. odorata superba* have been made from flowers sent by Dr. Bahnsen, and a strong plant with which he also favored me. This latter, received in sphagnum, when first planted out in my tank, gave me an experience strongly confirming Mr. Meehan's theory as to the lack of coloring of flowers on plants not established (Garden and Forest, p. 333). The plant was well furnished with leaves and buds, one of the latter having apparently expanded once. This opened the next day, beautiful in color, like the previous samples sent me. The next day the color had entirely disappeared. The next bud also, which was in a forward state, also expanded, of full size and a noble flower, but with no trace of color. The reason must have been, of course, the lack of nutrition from the newly planted roots, which had no chance to become established. There is one point about colored Nymphæas on which interesting experiments might be made, namely, the influence of manures and soil on the coloring. It seems to me that, at least in the case of *N. odorata rosea*, the soil and the form of manure has an influence on the color. My flowers this year are not so dark on this variety as on the same roots the previous season, and they are growing in lighter soil and, perhaps, less manure, although otherwise under the same conditions. There are also other points to be determined, and the cultivator of aquatic plants has many interesting problems before him, as well as the beautiful picture of the water-garden.

Elizabeth, N. J. *J. N. Gerard.*

Basket-plants.

SOME well-grown basket-plants make a pleasing addition to a conservatory, and many beautiful species display their charms to better advantage under this method of culture than when grown in pots. Among this class specially adapted is *Torrenia Asiatica*, an old species, but a very pretty one, which has opposite, serrated leaves of bright green, the flowers being tubular and four-lobed, porcelain-blue in shade, and the tips of the lobes white. In habit it is much-branched and trailing, and the flowers are produced from the axils of the leaves in great profusion. *T. Asiatica* is propagated from seeds or by cuttings, the latter rooting very readily, and its cultivation is of the easiest.

Another showy basket-plant is *Begonia glaucophylla scandens*, a variety that does not seem very common, though it has been cultivated for many years. As indicated by its name, this plant is of scandent habit, which is somewhat unusual among the Begonias, and has dark green leaves of similar shape to those of *B. Saundersii*, but much larger; and the flowers, which are produced in short-stemmed clusters, are bright red, though becoming much lighter when fully open. This plant grows freely, and under favorable circumstances its shoots will hang two to three feet below the basket, and completely hide it from sight. *Cyrtodeira Chontalensis* (now reclassed under Episcia), to which reference has already been made in these columns, is another excellent warm house basket-plant, with ovate leaves, light green above and purplish beneath, and tubular flowers, lilac in color, with a yellow centre. This Cyrtodeira prefers some shade and a moist atmosphere, besides light rich soil and an abundance of water at the root. It is easily multiplied by means of cuttings, and fresh young stock should be selected each season.

Still another pretty plant for baskets is *Othonna crassifolia*, which has the additional advantage of being an excellent window-plant. It produces long trailing shoots that are thickly fur-

nished with short fleshy leaves of bright green color, and during the summer is profusely dotted over with star-like bright yellow flowers about half an inch in diameter. It is of the easiest culture, and enjoys full sunlight and plenty of water, and, when so encouraged, will soon entirely cover a basket with a mat of bright verdure.

The variegated form of the Ground Ivy, *Nepeta glechoma*, also makes a very pretty specimen when well grown in a basket, its kidney-shaped leaves being handsomely marked with white, and the long slender shoots are very graceful. Its flowers are not very showy, being quite small and blue in color. It roots very readily, and can be grown well in either a cool greenhouse or in a window, and it makes an admirable carpeting for a window-box.

Among summer-flowering plants that may be used in baskets with good effect the Achimenes are prominent. These plants comprise a very showy group of the *Gesneriaceæ*, and require a light open compost well enriched with old manure, as their growth is rapid under congenial conditions. By using large, deep baskets, shaped like an ox-muzzle, the Achimenes may be planted all around the sides as well as in the top of the basket, and, with the aid of a few stakes to keep the plants from falling about too much, the basket will be completely hidden by the mass of brilliant flowers and attractive foliage. The Achimenes are deciduous and must be watered occasionally during the season of rest, in order to keep the tubercles in good condition. At this period they may be stood under the bench in a warm house. The Achimenes now make a long list, and much variety in color is to be found among them, but the following are all good sorts: Ambroise Verschaffelt, pale lilac, with reddish spots in centre; Aurora, dark scarlet, yellow eye; Longiflora alba, white, with blue lines in centre; Major, large, bright blue.

Holmesburg, Pa. *W. H. Taplin.*

The Newer Varieties of Strawberries.

THE early part of the season just closed has been a very trying one for Strawberries, as we had but one inch of rain-fall from May 1st to June 15th, at which time the vines of many varieties had the appearance of being scorched by fire. On the 16th of June there was a rain-fall of nearly three inches, thoroughly saturating the ground, reviving a large number of varieties to such an astonishing degree that one of the best-paying crops ever grown in this section has just been harvested. Of the newer varieties tested for only one season, I should place first on the list of early ones Van Deman, a variety originated by J. C. Bauer, Judsonia, Arkansas, and not yet in market. This has proved the earliest variety from which a quart of fruit could be picked. The growth of plants is vigorous and stocky; foliage dark green; fruit-stems short, hiding the fruits, which are of a very glossy scarlet color, with yellow seed, firm, and of a brisk tart flavor. This berry, while not of mammoth size, will sell well both on account of its earliness and brilliant color. Michell's Early has failed to justify the claims made for it; it was neither extremely early nor very productive. The fruits are of but medium size, soft, and of a very poor color; too light for a market berry. The flavor, however, is very choice. I am of the opinion that if this variety could be grown on light sandy soil it might prove more productive, as it naturally would not exhaust itself in making the number of runners it does on well-enriched clay loam. Tippecanoe is an improvement on Sharpless, as fruited here this year, earlier and more productive. Phillips' Seedling and Greenville are of the same type, each as vigorous as Sharpless; fruits of same shape, but without the characteristic green tip of the latter, and larger fruits on individual plants. Improved Manchester, a cross of Manchester and Miner's Prolific, seems a promising sort, and quite productive; fruits similar in shape to Jersey Queen, of darker color, but with the distinct peculiar flavor of the latter.

Shuster's Gem has not done very well here. The growth of vines has been poor, and the yield moderate. California and No. 19, two varieties from Delaware, are of low stocky growth, but not productive, the former bearing long dark scarlet fruits of but medium quality; the latter with fruits a fac-simile, in every respect, of Jersey Queen. Oliver is an Illinois production of wonderful growth, each plant making a perfect ball of dark green leaves; fairly productive. Gipsey, from New Jersey, did not do as well as expected from reports. It is a very showy berry, firm enough to ship, and of excellent flavor. Mrs. Cleveland makes a very fine growth, and set a large quantity of fruits, but the fruits ripened imperfectly, having the end imperfect or hard. Edgar Queen gave promise of being a fine berry, but, with Cloud, suffered severely by reason of drought. Beeder Wood proved wonderfully productive. It is a stocky grower, but the fruit-stalks are weak, and, if grown in stool, plants would need to be mulched; fruit rather soft, but could be shipped to near-by markets. Its season is long, as we picked fruits of it for twenty-two days. Parker Earle has sustained the claims made for it, being in every respect, but firmness, perfect. One who has not seen a row of this variety when in full bearing, can have little conception of its appearance, with almost every berry of uniform size and shape. The brilliant scarlet color, the large yellow seeds and the immense clusters, combined with the final test of flavor, make it one of the most desirable of the newer varieties. Its season here has been about with Gandy, which, however, gave a good picking a few days after Parker Earle had finished fruiting. Eureka has proved itself to be a fine variety, the quality of the fruits superb, quite productive and firm. Stayman's No. 1, while above the average in productiveness, did not sustain its record of last year. It set a large crop of fruit, but was not able to withstand the drought.

The Jessie has given better satisfaction this year than in former seasons. The fruits have been of a uniform size, and, while not extra large, held good size through picking, and gave a very fair yield. The quality I have always considered fine, and where it can be grown under suitable conditions must take rank, in my opinion, with the best. Lady Rusk gave a larger yield than last year, but the fruits run small and ill-shaped. Bubach has never succeeded in bearing a good crop here, although highly spoken of in most localities. Haverland, a fine variety to look at when in full fruiting, is too soft for general use. Middlefield, while not up to its former record, is still, in my mind, one of the best new pistillate varieties, ripening its first fruits about midseason and continuing late in bearing. One variety, not as new as the above, should not be omitted in any collection, that is the Burt's Seedling, claimed to be the old Captain Jack revived. In general appearance and yield of fruit there is no difference between them. It proves a fine cropper in most localities. The fruits resemble those of Wilson, firm and subacid. Being a perfect flowering variety, is a first-class fertilizer for the early pistillates. During a recent visit to several of the Strawberry-plantations of Oswego County, I found Cloud, Eureka, Burt's Bubach and Warfield were the leading varieties grown. The soil being stony light loam, they had not suffered as much through the dry season as other sections of the state, and I was able to see the Cloud in what seemed its natural soil, and it was very fine. I was told that pickers were anxious to be assigned to that variety and Eureka, as the large yield and size made a difference of a number of quarts in a day's picking.

Agricultural Experiment Station, Geneva, N. Y. *C. E. Hunn.*

Correspondence.

The Northern Forest.

To the Editor of GARDEN AND FOREST:

Sir,—It is interesting to hear the surprised comments of friends from lower New England, and even from the Champlain valley, who walk with me through the woodlands of the Memphremagog region, or notice the transplanted trees upon my lawns. No Oaks, no Hickories, no Chestnuts, nor Black Walnuts, nor Horse Chestnuts,—no nut, in short, but beechnuts, hazelnuts and butternuts. Also no Locusts, no Lombardy Poplars, no Catalpas and no Wistarias; nor climbing roses, except at the cost of careful protection. Our hardy climbers are limited to the native and some foreign kinds of Clematis, Lonicera and Ampelopsis. But of hardy shrubs, native and foreign, there is a great variety, including many Viburnums, Lilacs, Barberries, Bush Honeysuckles, Elders, Alders, Shepherdias, Wicopy, Japanese Rose, Amelanchier, Philadelphus, Hamamelis, Eleaginus; to say nothing of Ribes and many other things of recent importation, along with the Russian fruits, though not yet much distributed.

But it is of the forest-trees particularly that I wish to take note. First among deciduous species stands the Sugar Maple, with its congeners. The Maples are among our largest as well as most numerous trees. They grow to a great size, and are never seriously winter-killed, yet one cannot examine them without being assured that they are nearing their northern limits on our mountains. Really sound specimens of large size are somewhat rare. Going north from our highlands (nearly all of north-eastern Vermont is from 1,000 to 3,000 feet above the sea-level), following the slope to the St. Lawrence River, Maples rather improve than otherwise—the lessening altitude more than compensating for change of

latitude. The White Maple is more tender than the Sugar Maple, outside the forest or as a lawn tree—the bark being frequently killed in exposed situations. Red Maples are more hardy, and the striped and mountain Maples seem quite iron-clad. Negundo has also been lately introduced with success.

The Beech thrives as well as the Maple, but is often unsound, and does not reach so large a size as it does farther south. It fruits freely, however, although all of the great county of Aroostook, in Maine, lies considerably to the north of Vermont, yet the effect of a lower altitude is shown in the greater perfection to which the Beech grows there, even up to the latitude of Quebec. The Yellow and Canoe Birches are our only species of this family, and they both thrive perfectly, being among our largest and tallest trees. The first is almost as abundant as the Maple in the untouched forests, but is removed preferably for fire-wood, and lately for lumber—the Sugar Maples being rarely taken for this purpose, except when too much scattered to be available for sugar.

Among other Maples is a tree, not uncommon on my farm, differing distinctly in some particulars from the other Maples, though I am not botanist enough to accurately describe the distinctions. But the most notable practical fact about the tree is the great amount of tannic or gallic acid in its sap. Sugar-makers avoid it on this account, for it strongly reacts upon the iron spouts, so as to give the sap an inky color and taste, ruinous to the sugar. Neither the White, Red nor Sugar Maple saps do this.

Among our evergreen forest-trees, now that the Pines have nearly disappeared, Spruces stand first in number and commercial value. The Black Spruce is everywhere abundant, but the Canada line seems almost the southern limit of the more beautiful White Spruce, the finest of our evergreens for ornamental planting. Both are perfectly hardy, and make fine lumber, though the larger trees are becoming scarce, except in inaccessible localities. The Hemlock Spruce, though it is abundant, and grows to a large size, I have found distinctly tender when planted in exposed situations, and it is perhaps due to this lack of absolute hardiness that the "shaky" character of a large proportion of our hemlock lumber is to be attributed. At neither of two large mills was I able, recently, to obtain hemlock planks sufficiently sound to make a watering-trough, though they had plenty of hemlock timber, such as it was.

It is often asked whether our forests are disappearing. In northern New England they certainly are not. The farmer has a constant struggle against the persistent spread of seedling trees over his cleared land; and if man should abandon this region I think in a hundred years it would hardly be possible for a visitor to realize that it had ever been inhabited by civilized man. It is this constant pressure of the forest upon intruding settlements that prevents the average farmer from taking an interest in forestry. He has to fight for his life against the forest, and the idea that the forests are likely to be extirpated seems to him quite absurd. One of the largest and finest sugar-orchards in this town was seventy years ago a wheat-field.

Newport, Vt. *T. H. Hoskins.*

[What our correspondent says of the pressure of the forest upon the cleared land in the eastern states is all true. It is also true that there are vast areas in the country which will never reforest themselves, when once stripped of timber, and that there are many places, even in the east, where the thin coating of earth left on the rocks after the forest-floor has been destroyed by fire, will not support a vigorous forest-growth. Of the deterioration of the quality of the forest, which is quite as important as loss in quantity, we have often had occasion to speak.—Ed.]

Recent Publications.

Landscape-gardening. By Samuel Parsons, Jr., Superintendent of Parks, New York City. Illustrated. G. P. Putnam's Sons, New York and London, 1891.

It is many years since Downing wrote of landscape-gardening for American readers, and, though helpful books by Scott and others have since been published, there was room for another. During the past thirty years the desire of American dwellers in cities to possess and beautify country homes has greatly developed, and such homes have been established along sea-coasts of very diverse character, as well as on mountain-sides and fertile valleys. The spread of wealth and culture through the western states and along the Pacific coast has likewise multiplied the problems with which the landscape-gardener has to deal in the disposition both of private grounds and of public parks; and the materials now offered for his use are infinitely richer and more varied than those of a generation ago. It would indeed be a complicated and difficult task to write a book on landscape-gardening which would cover the whole field to-day and be of use in all parts of our country. This task Mr. Parsons has not attempted. In his introduction he explains that his book is not a systematic treatise, but a series of "simple desultory talks," written with the desire to arouse increased enthusiasm for his art among men of moderate means.

Judging it from this point of view, it contains much that is of interest and value, and though it must be charged with some sins, these are chiefly sins of omission, partly chargeable to the fact that unless one writes very systematically on such a subject as this, points of vital importance are sure to be forgotten.

Unfortunately, the terminology of this art is not firmly fixed and generally understood. One who writes about landscape-gardening is compelled to begin by defining the terms he uses, and, with all possible care, he cannot always find terms of exact appropriateness. For example, Mr. William Robinson, writing recently in *The Garden*, used the word "garden" to indicate the grounds forming the immediate ornamental environment of the house, though this word is commonly employed to designate a place in which flowers are grown. He explained, however, that the lawn must be "the heart of an English garden." To indicate these same grounds Mr. Parsons uses the word "lawn," although the very first sentence of his first chapter explains that "to the minds of most readers the lawn suggests simply grass." He might better have employed the term "home grounds," a term that once was generally used, but now appears to have gone somewhat out of fashion. This term is never applied in a narrower sense than the one Mr. Robinson intends by "garden," and Mr. Parsons by "lawn," and a very brief and simple explanation would prevent its being taken in too wide a sense.

Mr. Parsons' first chapter is devoted to the proper way of laying out and making a lawn, in the narrower acceptation of the word, and is chiefly of practical value, although it contains some good suggestions of an artistic kind, notably one with regard to the placing of the house, so that the lawn shall come opposite the main living-rooms and not the entrance front. Then he treats, in an excellent way, of "Sloping Grounds," and of the effects which may be produced in the home grounds during the different seasons, giving lists of plants which are especially beautiful in spring, summer, autumn and winter. We are gratified to see the fact emphasized that all times of the year should be provided for in our home grounds, as it is common to find places at their best for a brief time only, or, if no season has been specially thought of, the effect is at no period of the year so beautiful as it ought to be. The possibility of creating a charming winter landscape is more commonly ignored than any other, and Mr. Parsons' words on this branch of the subject should be especially suggestive. Throughout these chapters much is properly said about the beauty and variety of the greens of foliage as well as about the colors supplied by the flowers amid the foliage. But in dwelling upon color in this unusually broad and artistic spirit, he has not given equal attention to the question of form. No matter how carefully trees and shrubs may be chosen with regard to their shades of color, no effect will be good unless the same thought has been given to their forms as they will appear when growing toward maturity, and to the final sky-line of the plantations. These facts Mr. Parsons clearly indicates in his introduction, but they might well have been enlarged upon in the subsequent portions of his book.

The texture of different kinds of foliage is another interesting matter, and one to which he barely refers. Trees of similar habit and a similar shade of green may vary much in aspect, according as their foliage is thick or thin, large or small-leaved, and endowed with more or less mobility when touched by the breeze; and the planter who does not recognize this fact loses many chances for increasing the beauty of his arrangements, although, of course, he does not run so great a risk of producing ugly effects as though he neglected to think of form or of color.

The lists of plants which Mr. Parsons gives as displaying their chief beauty during successive seasons of the year will probably be the most helpful, as they are the most complete, feature of his book. Of course, it is as difficult to draw up such lists to the satisfaction of every one as it is to make faultless collections of "favorite quotations" or of "beauties" from popular authors. A reader who is thoroughly familiar with garden-plants will probably miss some of his special pets from Mr. Parsons' pages, but one who is simply anxious to become familiar with them will certainly not complain that

too few are named. A tenth part of those which Mr. Parsons describes would amply fill home grounds of considerable size with all the variety that the most insatiate planter could desire. One omission seems worth remarking upon. More than once he mentions the Virgilia or White-wood (*Cladrastis lutea*), but he does not mention it when naming the trees which bear conspicuous blossoms in late June or early July, although, with its graceful light green foliage and its great pendent panicles of white blossoms, it is then the most beautiful of all the flowering trees which will flourish in the neighborhoods for which this book is specially helpful.

Mr. Parsons' selection of plants for popular use will meet with general approval. It would have been as well, however, to have omitted some trees and shrubs of abnormal habit and color, or else to include a comprehensive warning against their excessive use. Monotony in color should be avoided by the planter; but it should be avoided more by the employment of different shades of green than by the introduction of plants with purple or brown or yellow or variegated foliage. These may be beautiful and useful when intelligently used, but this means when used sparingly, as rare punctuation marks, in a scheme composed of greens. Every one who is familiar with Mr. Parsons' own practice knows that he realizes this fact. In Central Park, for instance, the eye is far less often offended by too brilliant a spot or mass of foliage than in any other park, American or foreign, which we remember. But the people for whom Mr. Parsons writes are certain to be less experienced and likely to be much less intelligent in these matters than himself, while the attraction of mere novelty will lead them to admire in excess many things which, to the horticulturist and landscape-gardener, are as commonplace as grass and Huckleberry-bushes. We should have been pleased, therefore, if the danger of using too many purple Beeches, golden Elders and spotted Negundos had been minimized by more stringent cautions than Mr. Parsons has given.

"It is," says Mr. Parsons, "the arrangement of foliage, of trees, and shrubs and grass that should compose and characterize the lawn," or, as we should prefer to say, the home grounds. "But," he continues, "I believe in making a distinct and comfortable abode for flowers—in a word, a flower-garden. . . . It should be one where everything conspires to favor the growth of flowers, so that one may gather them without stint. To look only at a tree or shrub satisfies the observer, but flowers, to be enjoyed to the full, must be plucked, their fragrance inhaled, and their beauty of detail admired at leisure." For this flower-garden Mr. Parsons very wisely recommends, above all others, "hardy herbaceous perennial plants," while acknowledging that "it is easy to name shrubs and bedding plants that bear plenty of flowers, and there is certainly no valid objection to planting them in the garden." This chapter on "Garden-flowers" and the following one called "Grandmother's Garden" are admirable, and the annexed plan of a small private place laid out by Messrs. Vaux & Company shows an excellent way to provide a large flower-garden without disturbing the repose and artistic unity of the grounds.

In the chapter on "Bedding Plants" Mr. Parsons sanctions the use of formal beds of brilliant hue because "the universal delight in rich color is satisfied by their employment." But confiding readers will be disappointed if they believe that "the expense of their employment is comparatively small." Of course it does not cost much to buy enough young plants to stock a bed or two in a door-yard. But carpet-bedding on a large scale demands a great preliminary outlay for this purpose every year, or the existence of greenhouses for wintering and starting the plants, and a corresponding force of gardeners to attend to their cultivation and transplantation. The sums annually expended to stock the beds in the Boston Public Garden, or in one of our large cemeteries, where the bedding-out system is extensively developed, are enormous. Again, while Mr. Parsons is undoubtedly right in saying that, were formal color-beds more harmoniously designed, persons of taste would less sternly condemn them, we should have been glad had he likewise accentuated the fact that they are good or bad according as they are properly or improperly placed. The most beautiful pattern-bed in the centre of a wide green lawn is an atrocity, while even a less artistically designed one close to the foundations of a house, or in some small enclosed spot, where a "natural" effect could not well be achieved by the planter, may have a very happy effect. Such beds, it cannot too often be said, are architectural in character, and belong amid formal, if not strictly architectural, surroundings. In the middle of Union Square, or at the entrance of Central Park at Fifth Avenue, nothing else would look so well as those which, year by year, Mr. Parsons tastefully arranges. But even the simple circles of Tulips, which were so beautiful in the latter spot last spring, would have grossly offended the eye if transported to the edge of one of the adjacent lawns, or if set, even in a more secluded locality, at the base of a rock draped with naturally growing creepers. These facts are again among those which Mr. Parsons mentions, and which he respects in his own practice, but he might have urged them more strongly upon his readers. We dissent, however, from his views when he says that the flower or foliage-bed is "apt to look stiff and inartistic" because its extreme edge or border is "usually too sharply cut in outline," and that "to overcome this stiffness of outline, single plants of the Coleus or Geranium size should be set out in the grass just beyond the actual border of the bed," and that lower plants, like Pyrethrums and Alternantheras, "should be brought forward close to the low border, and here and there several of them should be allowed to get over the border and establish themselves in the neighboring grass. This will create a properly related emphasis of outline, a pleasing variety, and irregularity enough to just escape formality. There must, necessarily, be a certain precision of lines, but the treatment should all the time bear a distinct and well-defined kinship to that employed by nature in our fields and pastures."

To our mind this is just the sort of kinship that the treatment of formal beds should not bear. One great reason why the art of gardening lags at the present time behind its sisters is, that gardeners are seldom clear in their minds with regard to the special kind of beauty they wish to attain, or are inconsistent in their efforts to attain it. Hence the confusion, the lack of coherence, and, therefore, of beauty, which mark most of our private grounds and many parts of our public parks. First of all, a natural or a formal scheme should be decided upon, or, if the place be large, a scheme in which natural and formal elements are properly contrasted and yet harmonized. And then the chosen idea should be definitely expressed and boldly carried out. So distinctly artificial a feature as a pattern bed should never be employed at all, except in places where there is no need to mitigate or half-deny its artificiality. If, when boldly formal, it looks too stiff, it had better be done away with entirely, for its stiffness, instead of being "inartistic," is its essential character, and, therefore, is artistic if the environment be such as to sanction its presence at all, and the outline of its border seems to us just the place where this character should be most clearly expressed. We follow Mr. Parsons gladly when he teaches that we often see too mechanical a regularity in the filling of formal beds, feeling that such beds are, in truth, of two kinds—those where delicate stiff patterns are wrought by the use of brilliant, low, close-clipped plants, and those where freer masses of taller plants are grouped in only a semi-formal way. But in both cases the ornamental bed should confessedly be a bed, with a distinctly marked form and outline. Some of the most beautiful beds we remember to have seen were in France, and were filled with white and pink flowered Geraniums, not set in a pattern but mingling naturally together. But the shape of these beds was marked, and their character expressed, by a low close-clipped border of some other sort of plant. In short, while a natural arrangement should be consistently natural, a formal arrangement should as consistently be formal. The only question is, whether the one or the other will look best in the given spot.

The charming chapter on the "Ornamentation of Ponds and Lakes" was noticed in these columns when it appeared, not long ago, in one of the magazines. The one on "City Parks" gives an interesting account of the formation of Central Park, but we should have liked to see the great skill of its designers more strongly emphasized as it is revealed in the arrangement of the roads and walks. In a small place planting is the landscape-gardener's chief task; but in a large place, and above all in a public park, where crowds of persons on foot and in carriages must be accommodated, and must have the various portions of the enclosure beautifully revealed to their passing eyes, his preliminary work in laying out the roads is almost more important and even more complicated and exacting. This work has been exceptionally well done in Central Park, while it was exceptionally hard to do it well, owing to the broken character of the ground.

"Landscape-gardening" is handsomely printed and bound, and profusely illustrated; but the larger illustrations, although often taken from very interesting objects or scenes, are not all of the first quality. On the whole, the volume is one for which we are grateful, and one which should do much to stimulate an interest in plants and planting and garden arrangement. There is still need, however, for a companion volume, in the shape of a systematic treatise on landscape-gardening considered primarily as an art of design.

Notes.

In November, we read in a recent book about Japan, "the coquette sends her lover a leaf or branch of Maple, to signify that, like it, her love has changed."

Mr. E. T. Ensign, Forest Commissioner of the State of Colorado, announces in a circular that the citizens of Colorado Springs have secured the reservation of extensive bodies of timber-land at the sources of the springs, in Pike's Peak region. It is to be inferred from the wording of the circular that these reservations are to be made by proclamation of the President.

The horticultural building for the World's Fair at Chicago, which has been designed by Mr. W. Jenney, of that city, will cost, it is said, about $600,000, and will stand on the edge of the lagoon. It will be 1,000 feet in length and 286 feet in breadth, and will consist of a central pavilion connected with two others by glazed galleries. This central space will be 187 feet square and 113 feet in height, and will be devoted to the display of tropical plants.

Some of the perennial Gypsophilas and Statices, especially *G. paniculata* and *S. latifolia*, are highly valued for their cut flowers, which are small and abundant and borne on slender stems, and, when mingled with other flowers, have the effect of a fine mist or halo. Another excellent plant for this purpose is *Asperula hexaphylla*. A specimen sent to this office from the Passaic Nurseries by H. Meyer, has minute flowers, pure white, and borne on a very loose panicle, and they have a fairy-like delicacy. A well-grown plant will make a mass three feet in diameter and nearly as high.

La Revue Horticole announces the death of Monsieur F. Hérincq, in his seventy-first year. Monsieur Hénricq was long connected with the Herbarium of the Museum d'Histoire Naturelle, in Paris, and was known to horticulturists as the editor of *L'Horticulteur Français*, a periodical which he founded, and which ceased to appear several years ago. He was intimately associated with the late Monsieur Lavallée in the study and arrangement of the plants in the Arboretum Segretzianum, and assisted in preparing the important work which Monsieur Lavallée, published under that name.

The *Planter*, of New Orleans, recently put forth a novel suggestion with regard to the employment of the low grades of molasses, which sugar manufacturers now do not know how to get rid of even at five, six or seven cents a gallon. So the *Planter* advocates the unfamiliar idea of using it as fuel in the place of coal in the sugar-houses. Combined with the dry stalks of the Sugar-cane, after the saccharine matter has been extracted from them, it would burn with a high heat, while it would cost from one-eleventh to one-fifth of a cent per pound as against the one-fifth of a cent now expended for coal; and even half the now available stock of molasses would, we are told, more than suffice for the manufacture of all the sugar of Louisiana.

A correspondent of the London *Standard* recently proved that the Edelweiss, that secluded inhabitant of high Alpine regions, may make itself thoroughly at home in a city, by telling about a small plant which a friend living near Belfast had raised from seed and sent him, with directions to leave it to itself in a corner of his garden. "Unhappily," he says, "London gardens are the hunting-grounds for innumerable cats, so I placed my treasure, for such I deemed it, on the sill of my drawing-room window, aspect south-east; and there, through the dismal sunless winter, now buried deep in snow, now frozen hard, the Alpine stranger remained, always reported dead by all who saw it; but toward the end of March life showed itself, and now it is a large healthy plant, with five lovely blooms, the admiration of all who see it."

We have recently received the prospectus of a new periodical, called *Zeitschrift für Pflanzenkrankheiten* (*Journal of Plant Diseases*), which is to be issued at Stuttgart, under the control of Dr. Paul Sorauer, who will have the assistance of the International Phytopathological Commission, which includes members residing in all the civilized parts of the world, the American members named in the prospectus being Professor Farlow, of Cambridge; Professor Galloway, of Washington, and Professor Humphrey, of Amherst. The journal will be published bi-monthly, with lithographed plates and wood-cuts in the text, and the annual subscription price has been fixed at fifteen marks. It will contain original articles of considerable length, shorter notes on subjects of current interest and full reviews of new books and treatises, and should be of great use to all who are concerned with the cultivation of plants.

In the preface to Mr. E. W. Hervey's interesting "Flora of New Bedford and the Shores of Buzzard's Bay," which we have already brought to the attention of our readers, he says that comparative reference to catalogues of various western localities shows that the blossoming season is earlier there than on the shores of the Atlantic. A catalogue of the plants found at Oquaka, Illinois, on the shores of the Mississippi, "discloses the interesting fact that the season there . . . is much earlier than that of New Bedford by the sea, though both places are practically in the same latitude, the spring plants of the former region blooming from ten to fifteen days earlier, and those of May, June and July from three to four weeks earlier," while an article by Mr. E. W. Hammond on "Winter Flowers in Oregon," published in Garden and Forest last January, seems to prove "that the season on the Pacific coast in latitude one degree further north is six weeks earlier than here."

Dr. Richard Schomburgk, for the last twenty-five years director of the Adelaide Botanic Garden, died there at the end of last March. He was a native of Freeburg, and was born in 1811. Political complications compelled him, with his brother Robert, to leave Germany. With the assistance of Humboldt he was able to reach Australia, where he has principally resided. In 1871 he published a catalogue of the plants cultivated in the Adelaide garden, and his elaborate annual reports testify to the energy and activity which he displayed in carrying on the establishment entrusted to his care. He published in 1876 his "Botanical Reminiscences of British Guiana," an interesting account of the Boundary Expedition of 1842, which was commanded by his brother, and to which he was attached as naturalist on behalf of the Prussian Government. His most important contribution to botany is, however, the synopsis of the flora of British Guiana, published in his "Reisen in Britisch Guiana" in 1848.

A recent number of the *American Architect and Building News* contains an interesting article on the great island of New Guinea, the least-known of any country on the globe. After speaking of the houses built on piles, the writer describes another type of house, which seems even more primitive, as it appears in an illustration reproduced from a photograph. The picture shows a sort of small clearing on a steep hill-side, and in the centre of it a tall, rather slender tree, apparently a Blue-gum, the head of which has been lopped off, so that nothing remains but a few short branches with scattered tufts of leaves springing from their extremities. About thirty feet above the ground, approached by a very frail-looking ladder and supported by the main branches, some distance above the place where they fork, stands the house which, oddly enough, always contains two stories, and has a platform on top whence the surrounding country may be scanned for signs of approaching danger. Resting thus on the lopped and naked tree, with the ragged thatch of its sides and roof hanging down in rough streamers, it looks not unlike a colossal nest—such a nest, on a larger scale, as the fish-hawk builds in blasted trees along our own Atlantic coast. Our "arboreal ancestors" seem closer to us as we think of human habitations in the tree-tops at the close of the nineteenth century.

The fact that the authorities of Kew Gardens have been endeavoring for a number of years to extend the scope and enlarge the usefulness of the various botanical establishments in the British West Indies has already been alluded to in these columns. To further this undertaking, which looks to the formation of a botanical federation for purely economic purposes, and which is likely to be beneficial to all English-speaking people in the Antilles, Mr. D. Morris, the Assistant Director of Kew, was sent last winter to make a tour of inspection through the West Indies. His report, containing much useful and interesting matter pertaining to the different islands, is now published in the May and June issues of the *Bulletin of Miscellaneous Information* from the Royal Gardens. The information it contains will be found useful not only to Englishmen, but to Americans who now visit the West Indies in larger numbers every year, both for business and pleasure. An appendix to the same useful publication contains a list of the new garden-plants described in botanical and horticultural publications, English and foreign, during the year 1890. It includes not only plants brought into cultivation in that year for the first time, but the most noteworthy of those which have been introduced after being long lost from gardens. In addition to these the list contains all hybrids, whether introduced or of garden origin, but described for the first time in 1890. The list will be found indispensable to all people who desire to keep informed of new plants available for garden decoration.

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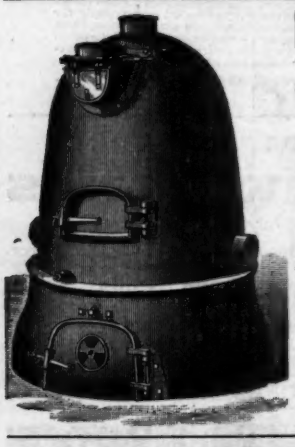

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